

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.**

09/804,283

F0601

MARKED-UP VERSION OF ALL PENDING CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A system for analyzing sheet resistivity of a silicide layer on a wafer and for controlling rapid thermal annealing (RTA) of the silicide layer comprising:
 - one or more RTA components ~~adapted to that~~ perform RTA on the silicide layer;
 - one or more sheet resistivity analyzing components ~~adapted to that~~ analyze the sheet resistivity of one or more portions of the silicide layer upon which the RTA components can perform RTA; and
 - a feedback generator ~~adapted to accept that~~ accepts sheet resistivity data from the analyzing component and ~~to produce a~~ produces feedback information operable to control the one or more RTA components.
2. (Cancelled)
3. (Currently Amended) The system of claim 1 ~~2~~, wherein the silicide is one of TiSi_2 and NiSi .
4. (Currently Amended) The system of claim 1, ~~wherein~~ the feedback generator is operable to maintain and/or change the heating time for one or more RTA components.
5. (Currently Amended) The system of claim 1, ~~wherein~~ the feedback generator is operable to maintain and/or change the heating temperature for one or more RTA components.

09/804,283

F0601

-
6. (Currently Amended) The system of claim 1, ~~wherein~~ the feedback generator is operable to maintain and/or change the heating time and the heating temperature for one or more RTA components.
7. (Currently Amended) The system of claim 1, further comprising a data store ~~adapted to store~~ that stores a first information associated with monitoring sheet resistivity and controlling RTA.
8. (Currently Amended) The system of claim 7, ~~wherein~~ the first information includes at least one of sheet resistivity measurements, the feedback information, RTA time parameters, RTA heat parameters, layer composition, wafer size, wafer composition, wafer supplier, processing stage data, RTA chamber data and sheet resistivity chamber data.
9. (Currently Amended) The system of claim 7, further comprising a monitoring application ~~adapted to analyze~~ that analyzes the feedback information and to ~~examine~~ examines the first information stored in the data store and to ~~produce~~ produces reporting information associated with at least one of the RTA components, the sheet resistivity analyzing components, the feedback generator and the data store.
10. (Currently Amended) The system of claim 9, ~~wherein~~ the monitoring application is ~~further adapted to schedule~~ schedules maintenance for at least one of the RTA components, the sheet resistivity analyzing components, the feedback generator and the data store.
11. (Currently Amended) The system of claim 1, ~~wherein~~ the one or more RTA components and the one or more sheet resistivity components are located in the same physical apparatus.

09/804,283

F0601

-
12. (Currently Amended) The system of claim 11, ~~wherein~~ the feedback generator is operable to maintain and/or change the heating time for one or more RTA components.
13. (Currently Amended) The system of claim 1, ~~wherein~~ the feedback generator is operable to maintain and/or change the heating temperature for one or more RTA components.
14. (Currently Amended) The system of claim 11, ~~wherein~~ the feedback generator is operable to maintain and/or change the heating time and the heating temperature for one or more RTA components.
15. (Currently Amended) The system of claim 11, further comprising a data store ~~that stores~~ adapted to store first information associated with monitoring sheet resistivity and controlling RTA.
16. (Currently Amended) The system of claim 15, ~~wherein~~ the first information includes at least one of sheet resistivity measurements, the feedback information, RTA time parameters, RTA heat parameters, layer composition, wafer size, wafer composition, wafer supplier, processing stage data, RTA chamber data and sheet resistivity chamber data.
17. (Currently Amended) The system of claim 15, further comprising a monitoring application adapted to analyze ~~that analyzes~~ the feedback information and to ~~examine~~ examines the first information stored in the data store and ~~produce~~ produces reporting information associated with at least one of the RTA components, the sheet resistivity analyzing components, the feedback generator and the data store.
18. (Currently Amended) The system of claim 17, ~~wherein~~ the monitoring application ~~is further adapted to schedule~~ schedules maintenance for at least one of the

09/804,283

F0601

RTA components, the sheet resistivity analyzing components, the feedback generator and the data store.

19. (Currently Amended) The system of claim 1, ~~wherein the wafer is mapped into a plurality of grid blocks, and where the one or more sheet resistivity analysis components are further adapted to make a determination of sheet resistivity at a grid block, and where the one or more RTA components are further adapted to be selectively controllable for performing to perform~~ RTA at a grid block.

20. (Currently Amended) A method for regulating layer formation, comprising:
defining a layer as one or more portions;
performing rapid thermal annealing on one or more of the portions;
measuring sheet resistivity in one or more of the portions;
analyzing the sheet resistivity measurements to determine the acceptability of the sheet resistivity at one or more of the portions;
generating feedback information, based at least in part on the sheet resistivity measurements, the feedback information operable to control one or more RTA components, the RTA components corresponding to a respective portion; and
controlling one or more RTA components to regulate RTA at one or more portion;

storing at least one of the sheet resistivity measurements, the feedback information, RTA time parameters, RTA heat parameters, layer composition, wafer size, wafer composition, wafer supplier, processing stage data, RTA chamber data and sheet resistivity chamber data in a data store; and

monitoring at least one of the sheet resistivity measurements, the feedback information, RTA time parameters, RTA heat parameters, layer composition, wafer size, wafer composition, wafer supplier, processing stage data, RTA chamber data and sheet resistivity chamber data and producing at least one of a productivity report, an error report and a maintenance schedule.

09/804,283

F0601

21. (Cancelled)

22. (Currently Amended) The method of claim 20 ~~21~~, further comprising performing machine learning based, at least in part, on data stored in the data store, the machine learning capable of adapting one or more parameters associated with performing RTA on one or more of the portions.

23. (Cancelled)

24. (Currently Amended) A system for regulating layer formation on a silicide wafer, comprising:

sensing means for sensing electrical properties of a silicide layer;
rapid thermal processing means for heating a silicide layer; and
controlling means for selectively controlling the rapid thermal processing means so as to regulate silicide layer formation.

25. (Currently Amended) A data packet ~~adapted to be transmitted~~ transmittable between two or more processes, the data packet containing information related to sheet resistivity measurements.

26. (Original) The data packet of claim 25 further containing information related to feedback information operable to control one or more RTA components.